Work Order ID 67369

Thursday, March 17, 2011 7:12:55 AM

Item ID: D2010-101 **Accept** **Setup Start**

Revision ID: **Stop**

Item Name: Mirror Bracket

Start Date: 3/15/2011 **Start Qty:** 30.00 **Cust Item ID:**

Required Date: 3/17/2011 **Req'd Qty:** 30.00 **Customer:**

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D2010	Rev D								
100	FLOW WATER JET	0.00							
Waterjet	**Memo**	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg D2010-101 Dwg Rev: D Prog Rev: D 2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
QC	**Memo**	0.00							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
QC	**Memo**	0.00							
Quality Control									

3/17/11 — 03 — 17 — 30

3/17/11 — 03 — 17 — 30

counted 30

3/17/17

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Work Order ID 67369

Thursday, March 17, 2011 7:12:55 AM

Item ID: D2010-101 **Accept** **Setup Start**

Revision ID: **Stop**

Item Name: Mirror Bracket

Start Date: 3/15/2011 **Start Qty:** 30.00 **Cust Item ID:**

Required Date: 3/17/2011 **Req'd Qty:** 30.00 **Customer:**

Reference: **Run Start**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Stop**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	NC BRAKE	0.00				30			
Brake NC	Memo	0.00							
Brake NG	Form as per Dwg D2010								
145	Chemical Conversion Coat per QS1005 4.1	0.00							
HandFinish	Memo	0.00							
Hand Finishing									
147	QC3- Inspect Part Finish	0.00							
QC	Memo	0.00							
Quality Control									

SB 11/03/21

30 BK 11-3-22

30X 11/03/22

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Work Order ID 67369

Thursday, March 17, 2011 7:12:55 AM

Item ID: D2010-101 **Accept** **Setup Start**

Revision ID: **Stop**

Item Name: Mirror Bracket

Start Date: 3/15/2011 **Start Qty:** 30.00 **Cust Item ID:**

Required Date: 3/17/2011 **Req'd Qty:** 30.00 **Customer:**

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 Small Fab Small Fab	Small Fab **Memo** Install fasteners per Dwg D2010	0.00 0.00				30			

11/03/23

160 QC Quality Control	QC5- Inspect part completeness to step on W/O **Memo**	0.00 0.00							

S 11/03/23

counted X30

170 Powdercoat Powder Coating	Black Sandtex(Ref:4.3.5.7) per QSI005 4.3 **Memo** ***INSTALL BOLT IN INSERT PRIOR TO POWDER COAT*** START TIME 10:30 OVENTEMPERATURE: 320° FINISH TIME 11:00	0.00 0.00							

M112588

30 BR 11-3-25

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Work Order ID 67369

Thursday, March 17, 2011 7:12:55 AM

Item ID: D2010-101 **Accept** **Setup Start**

Revision ID: **Stop**

Item Name: Mirror Bracket

Start Date: 3/15/2011 **Start Qty:** 30.00 **Cust Item ID:**

Required Date: 3/17/2011 **Req'd Qty:** 30.00 **Customer:**

Reference:

Run Start

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Stop**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	QC3- Inspect Part Finish	0.00				30			MF 11/03/26
QC	**Memo**	0.00							
Quality Control									
190	Identify as per dwg & Stock Location: 220	0.00							11/3/30 300
Packaging	**Memo**	0.00							
Packaging									
200	QC21- Final Inspection - Work Order Release	0.00							11/3/31 MF
QC	**Memo**	0.00							
Quality Control									

11-03-31

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Picklist Print

Thursday, March 17, 2011 7:12:52 AM

Work Order ID: 67369

Parent Item: D2010-101

Parent Item Name: Mirror Bracket

Start Date: 3/15/2011 **Required Date:** 3/17/2011

Start Qty: 30.00 **Required Qty:** 30.00

Comments: IPP: [illegible]02.06.25[illegible]Added Rev. C[illegible] KJ[illegible]/RF
IPP Rev:F 07-08-015 Now on WaterJet Verified By:EC
IPP Rev:G 08-05-27 as per ECN1195P DD verified by:EC
IPP Rev:H 08-06-20 rev.D as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.063 2024-T3 .063 sheet		Purchased	No			150	sf	70.1270	0.3472	10.96421 B11-3-23			

Location	Loc Qty	Loc Code
MAT	65	
117018 X18	65	
MAT22	5.127	
113867	0.7	
114351 X12	4.427	

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
FE-032-EF Inserts		Purchased	No			100	Each	5.0000	4	120 ES 11/03/23			

Location	Loc Qty	Loc Code
ST285	5	
110836	5	

M111341 (87x)

M117168 (33x)

Dart Aerospace Ltd

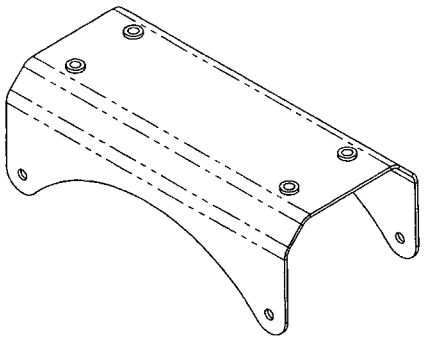
W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

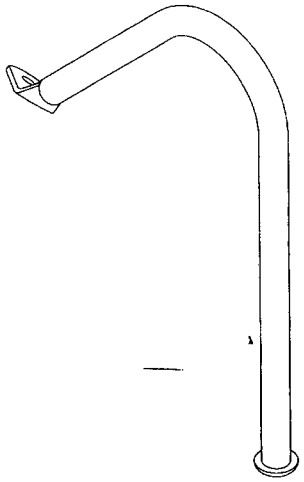
Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

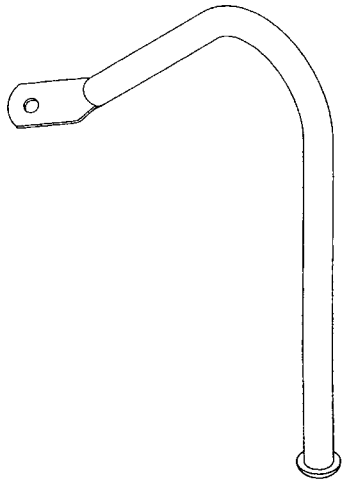
NOTE: Date & initial all entries



D2010-101 MIRROR BRACKET



D2010-103 ARM



D2010-104 ARM

RELEASED
08.06.19

M-067369

D	REDRAWN IN SOLIDWORKS; ADD D2010-1F FLAT PATTERN FOR D2010-101 (ZN B7-2); Ø0.500 X 0.049 WALL WAS Ø0.500 X 0.035 WALL (ZN B1-3, B1-4); REASON; TUBING CRACKING DURING SERVICE	PH	08.06.10
C	1.93 WAS 2.00; 0.50 WAS 0.62	KE	97.10.31
B	7.90 WAS 10.90	JB	92.03.17
A	NEW ISSUE	JB	90.12.15
REV.	DESCRIPTION	BY	DATE

DESIGN	JB	**DART AEROSPACE LTD**	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO. D2010	REV. D
MFG. APPR.			SHEET 1 OF 4
APPROVED		TITLE MIRROR BRACKET	SCALE NTS
DE APPR.			
DATE	08.06.10		

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W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

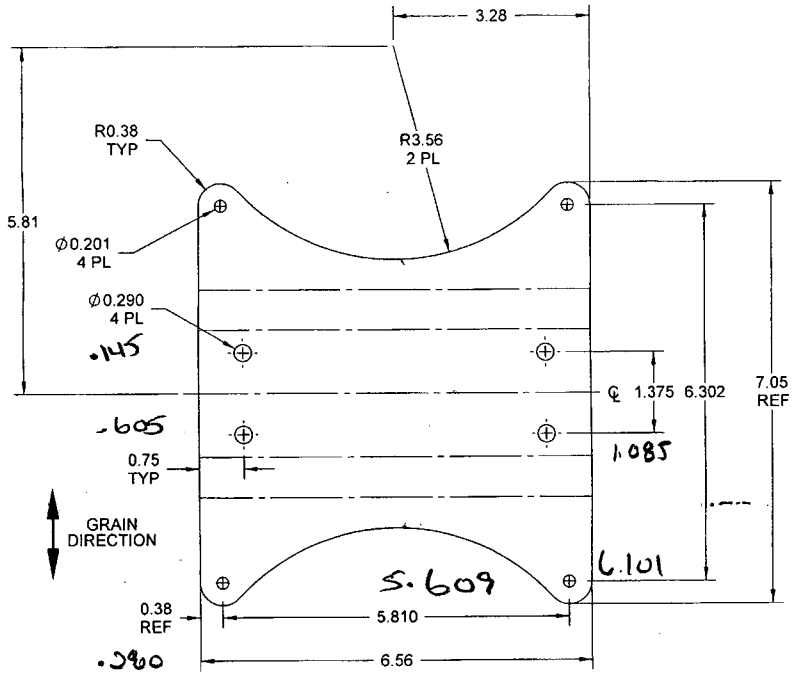
Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

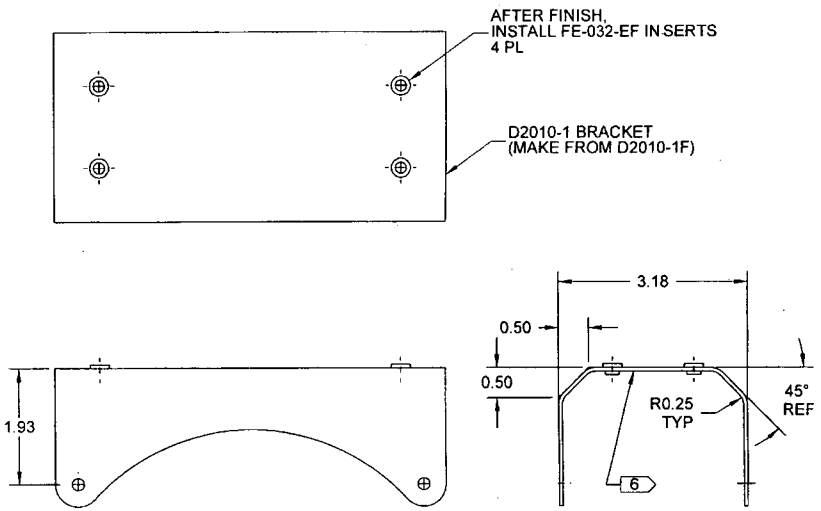
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

QTY -101	P/N	DESCRIPTION
X	D2010-101	MIRROR BRACKET
1	D2010-1	BRACKET
4	FE-032-EF	INSERT



D2010-1F FLAT PATTERN (D)



D2010-101 MIRROR BRACKET

RELEASED 08.06.19

NOTES:
1) MATERIAL: D2010-1F: 2024-T3 ALUMINUM SHEET, 0.063 THICK PER AMS-QQ-A-250/4 OR AMS 4037
(REF DART SPEC M2024T3S.063)
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D2010-101" USING WHITE FINE POINT PERMANENT INK MARKER OR LABEL
7) WEIGHT: 0.23 lbs

67369

DESIGN	JB	DART AEROSPACE LTD
DRAWN		HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. D2010 REV. D
MFG. APPR.		SHEET 2 OF 4
APPROVED		TITLE MIRROR BRACKET SCALE NTS
DE APPR.		
DATE	08.06.10	

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W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

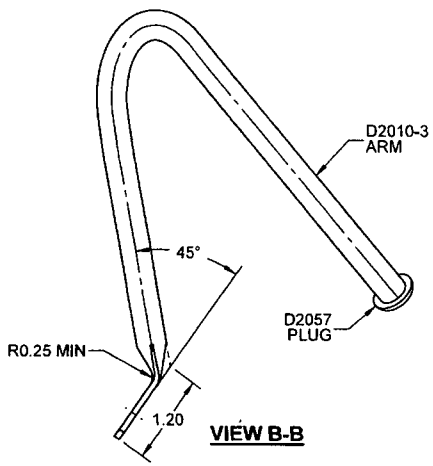
Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

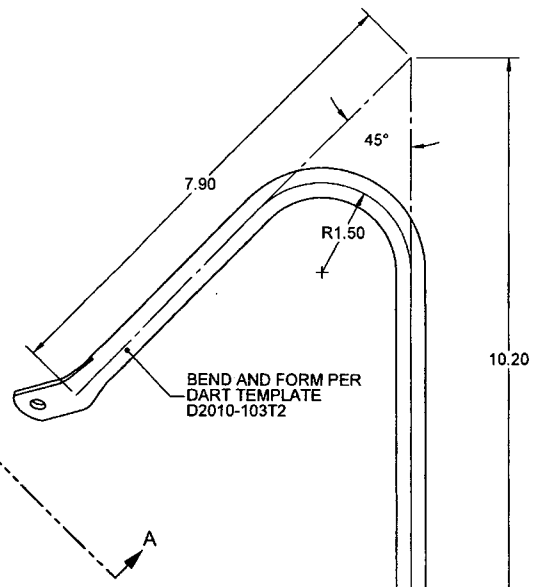
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

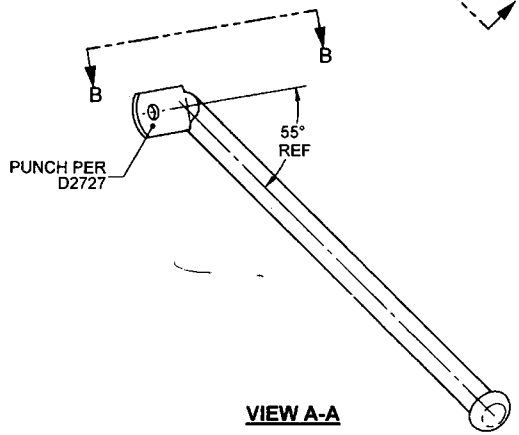
QTY -103	P/N	DESCRIPTION
X	D2010-103	ARM
1	D2010-3	ARM
1	D2057	PLUG



VIEW B-B



D2010-103 ARM



VIEW A-A

RELEASED
05 05 A 11

NOTES:
1) MATERIAL: D2010-3: AISI 304/316 SS SEAMLESS ROUND TUBING, Ø0.500 X 0.049 WALL (REF DART SPEC M304TR0.500W.049) △D
2) FINISH: POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D2010-103" USING WHITE FINE POINT PERMANENT INK MARKER
7) WEIGHT: 0.34 lbs

673609

DESIGN	JB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN		
CHECKED	PH	DRAWING NO. D2010 REV. D
MFG. APPR.		SHEET 3 OF 4
APPROVED		TITLE MIRROR BRACKET SCALE NTS
DE APPR.		
DATE	08.06.10	

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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

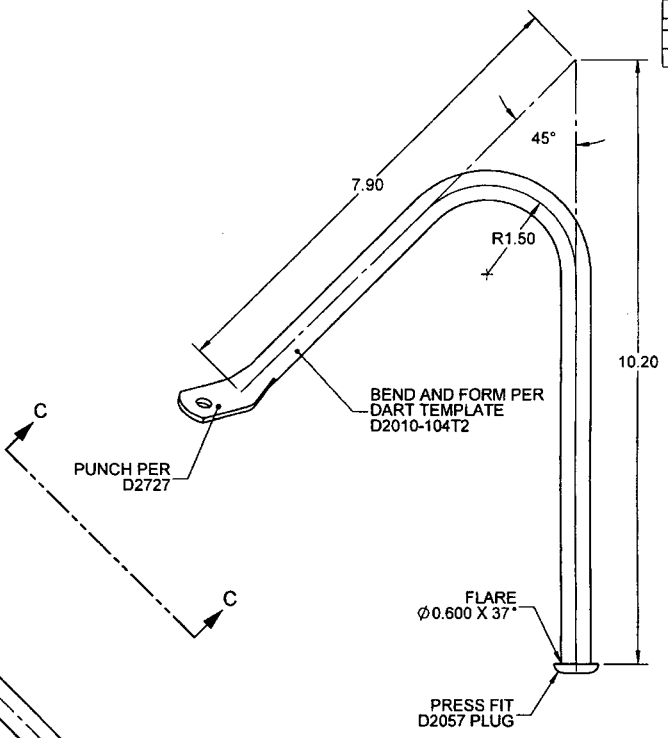
Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

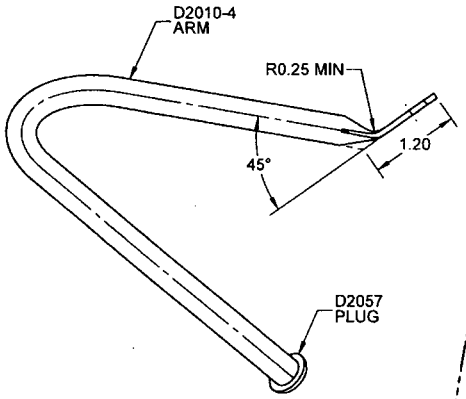
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			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

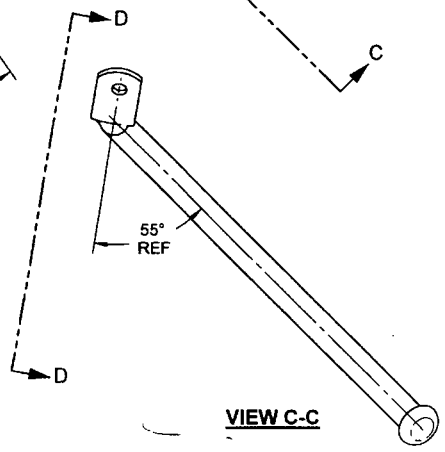
QTY -104	P/N	DESCRIPTION
X	D2010-104	ARM
1	D2010-4	ARM
1	D2057	PLUG



D2010-104 ARM



VIEW D-D



VIEW C-C

RELEASED
08.06.11

NOTES:
1) MATERIAL: D2010-4: AISI 304/316 SS SEAMLESS ROUND TUBING, Ø0.500 X 0.049 WALL (REF DART SPEC M304TR0.500W.049) △D
2) FINISH: POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D2010-104" USING WHITE FINE POINT PERMANENT INK MARKER
7) WEIGHT: 0.34 lbs

67369

DESIGN	JB	DART AEROSPACE LTD
DRAWN		HAWKESBURY, ONTARIO, CANADA
CHECKED	PH	DRAWING NO. D2010 REV. D
MFG. APPR.		SHEET 4 OF 4
APPROVED		TITLE MIRROR BRACKET SCALE NTS
DE APPR.		
DATE	08.06.10	

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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	
Description: Bracket	Part Number:	D2010-101
Inspection Dwg: D2010 **Rev:** D		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [] Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
6.56	+/-0.030	6.56	✓		M.T	MM-02
5.81	+/-0.030	5.818	✓		Vern	MM-01
0.38	+/-0.030	0.378	✓		Vern	MM-01
0.75	+/-0.030	0.75	✓		Vern	MM-01
0.38	+/-0.030	0.378	✓		Vern	MM-01
1.375	+/-0.010	1.374	✓		Vern	MM-01
Ø0.290	+0.005 -0.000	0.290	✓		Vern	MM-01
~~7.060~~ 7.05	+/-0.030	7.05	✓		M.T	MM-02
Ø0.201	+0.005 -0.000	0.201	✓		Vern	MM-01
6.30	+/-0.030	6.289	✓		Vern	MM-01

Measured by:	MM	Audited by:	S	Prototype Approval:	N/A
Date:	11·03·17	Date:	11/03/17	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.10.06	New Issue	KJ/RF	
B	06.03.08	Dwg rev. changed	KJ/JLM	
C	08.07.22	Dimension 5.06 removed	KJ/DD	